

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Reissue Application of: ()
BILL L. DAVIS and JESSE S. WILLIAMSON ()
()
For Reissue of U. S. Patent 5,630,393 (Group Art Unit:
Issued May 20, 1997 (2854
Serial No. 08/515,097 ()
()
Filing Date: May 20, 1999 (Examiner:
()
Serial No: 09/315,796 ()
()
For: COMBINED LITHOGRAPHIC/ ()
FLEXOGRAPHIC PRINTING ()
APPARATUS AND PROCESS ()

SECOND SUPPLEMENTAL DECLARATION OF RAYMOND J. PRINCE

I, Raymond J. Prince, under penalties of perjury declare and state the following:

1. I am the same Raymond J. Prince who made a declaration on or about May 19, 1999 submitted with the original application for reissue, and a supplemental declaration dated March 15, 2000. I reaffirm each of the statements made therein.

2. I have been asked to review once again U. S. Patent 5,360,363, specifically in reference to an office action in reissue application Serial No. 09/315,796, as well as European Patent Application EP 741 025 - (A2) cited in that office action dated February 8, 2000, and give my opinion as to the '363's teachings to one of ordinary skill in the printing arts and respond to specific questions concerning (1) additional explanation of the word "over" as it relates to the step of "perfecting" in the printing arts and (2) the meaning of the statement "continuous in-line process." Finally, I have been asked to study U.S. patent application Serial No. 08/435/798 as filed on May 4, 1995 (European Patent Office published counterpart EP 741,025A2) and ascertain if claims 1-26 of U.S. Pat. 5,960,713 or any of them find fair support in Serial No. 08/435,798 and are described in that application.

3. As explained in the March supplemental declaration, the word "over" has several meanings, and one of the meanings is, clearly, "perfecting". As of August 1995, the word "perfecting" meant to print on both sides of the sheet in one pass through the press. Note also, the attached article (**Exhibit A** hereto), the "Toth Article" written in March of

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1995 for the publication Graphic Arts Monthly by senior writer Deborah Toth, and specifically, the underlined portions on pages 2 and 7. Deborah Toth is one of the most respected writers of Graphic Arts Monthly, an important journal in the field. The Toth article indicates that presses that have eight units with a "perfecting" unit between units 4 and 5 are referred to as a "4-over-4" perfector. The word "over" and "perfector" in this case are synonymous. A sheet that has 5 colors on one side and one color on the other, and is produced in one pass, would be referred to as a "5 over 1" press, i.e., a "perfecting press".

4. *Based on the usual and ordinary meaning of the terms "continuous process" and "in-line process", as well as the written description of the invention of the '363 patent, the phrase "continuous in-line process" in August 1995 is understood by one of ordinary skill to include the option of perfecting.* Indeed, the word "continuous process" (as used in the recently published Graphic Arts Encyclopedia published by Graphic Arts Technical Foundation, Sewickley, Pa., 1998, compiled by Prof. Frank Ramano and son, page 191, **Group Exhibit B**), is defined as "In any manufacturing process, the ongoing production of a steady stream of material, in contrast to a batch process." The word "in-line" has many meanings, but the one that applies to the technology as discussed is (Encyclopedia, see page 428, **Group Exhibit B**) quoted as follows: "In-line is also descriptive of any series of processes connected in a logical sequence, requiring little user intervention." In addition, the term (Encyclopedia, page 592, **Group Exhibit B**) "perfector /perfecting" means printing on two sides during one pass through a press. These terms had the same meaning in 1995 as they did later in 1998 to those in the art when the Encyclopedia was first published. Note **Exhibit C**, published in 1994. It has been my observation that most (90%) of the printing done in this country is now (year 2000) printed on two sides. The prime example of work printed on one side is folding carton; however, this is changing with the advent of printing coupons on the inside of cartons. "Continuous in-line process" can only be performed today (and in the year 2000 in over 90 plus % of the cases) by employing a press that can "perfect" the work. If "perfecting" were not done, then batch processing would have to be done which would defeat the economics of "continuous in-line processing." By no means in August 1995 were all commercial-size lithographic presses capable of "perfecting." Most I believe, were not. As of August 1995 -- the time of filing of the application leading to the '363 patent -- it is my belief approximately only 30% of new offset lithographic sheetfed presses being sold had "perfecting" units. At that time the 30% was growing rapidly. Today approximately 70% of

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the new sheetfed offset lithographic presses are sold with "perfecting" units. Further, it is my opinion as an expert in the printing arts that, as of August 1995, to one skilled in the art, the term mentioned in the '363 patent "continuous in-line process" would include the option of "perfecting." This is stated for at least the following reasons:

(a) without "perfecting", the work in many cases would have to be put through the press a second time and, therefore, the process would not be "continuous";

(b) "perfecting" was an integral part of the concept known to one of ordinary skill in the printing art of a "continuous in-line process" as of August 1995.

The term "continuous in-line process", found a great number of times in the '363 patent, indeed, had a well-established meaning to one of ordinary skill in the art as of its filing date in August 1995. (Note '363 at the Abstract, line 8; col. 4, lines 10-11; col. 4, lines 23-24; col. 4, lines 31-32; col. 4, lines 33-34; col. 4, line 44; col. 5, line 7; col. 5, line 16; col. 5, line 21; col. 5, line 27; col. 5, line 44; col. 6, line 59; col. 6, line 65; col. 7, line 13; col. 7, line 18; col. 7, line 22; col. 7, line 33; col. 8, line 15; col. 8, lines 22-23; and col. 8, line 27. *That term meant to one of ordinary skill in the art a printing process including the option of perfecting.*

5. In reviewing application Serial No. 08/435,798, I note that the terms "perfect", "perfecting" and "continuous in-line process" are not used. Simply put, the applicants of the '798 do not teach their apparatus and process elements to apply to that process option.

6. In looking at the attached Graphic Arts Monthly Toth article (**Exhibit A**), please note page 3 (**Exhibit A**, underlined). The term "in-line, single-pass production" in that paragraph is used in conjunction with "perfecting" in the last of the article and add-on units.

7. Save for Col. 1, lines 11-19 and, more importantly Col. 16, lines 17-41, U.S. Pat. 5,960,713 has very nearly the same substantive specification and drawings as U.S. Pat. No. 5,651,316 and No. 5,598,777 (note the new disclosure at col. 16, lines 17-41 added to the specification leading to the '713 in August, 1998). The '713, '316 and '777 patents all have a common October 2, 1995 filing date, except for the '713, having a claim to the filing date of Serial Number 08/435,798, May 4, 1995. For the following reasons, I believe it is clear that the '713 applicants are clearly not so entitled to the benefit of the filing date of May 4, 1995 via Ser. No. 08/435,798.

8. The teachings of the "double bump" '713 patent are directed to a *semi-permanent*, if not *permanent* conversion of an offset lithographic printing press for flexographic production. This non-retractable unit applies coating to a flexographic plate

mounted on *either the plate or blanket* (or both plate *and* blanket) cylinder of an offset lithographic printing press for direct or indirect (offset) flexography. The term "double bump" as used in the '713 patent, was a novel use of the term. The term normally meant to underlay one color with the same color, be it a solid or a tint. As used in the '713 patent, it means coaters engaging to the plate cylinder and blanket cylinder simultaneously. Nowhere in the '798 does the term "double bump" appear. Nor is the concept taught. Page 13, and pages 17-21 of Ser. No. 08/435,798 as filed teach away from "double bump" because the description specifically refers to the use of one coating/inking unit at a time, and not simultaneous.

9. The '713 patent does not disclose the *cantilevered* or "ferris wheel" device as taught by Serial Number 08/435,798/EP 741025(A2), or any other similar retractable mechanism --- in fact, in my opinion, it teaches completely away from the primary retractable cantilevered teaching of Serial No. 08/435,798. I have reviewed the claims of the '713 patent, and no '713 claim is supported by Serial Number 08/435,798, and the specification and claims of Serial Number 08/435,798 do not, in my expert opinion, provide a teaching which enables one of ordinary skill in the printing art to practice the claimed invention of the '713 patent, or even provides a text which fairly "describes" the claimed invention of the '713 patent. In my opinion, none of the '713 claims are supported by an enabling teaching or an adequate description in Ser. No. 08/435,798.

10. In the alternative, I have been asked to provide my opinion whether the disclosure of Serial No. 08/435,798 *reasonably conveys to one of ordinary skill in the art that the '798 applicants "had possession" of the '713 claimed subject matter.*" It is my opinion those applicants in Serial No. 08/435,798 very clearly did not have possession of the claimed subject matter of the '713 subject matter since in the '798 application they taught use of a specific type of retractable mechanism -- a *retractable, cantilevered* device -- whereas in the '713 patent they taught a *semi-permanent* converted press, and the '798 applicantion did not teach *simultaneous* engagement of the plate and blanket cylinders.

11. Independent Claims 1 and 12 read as follows (with some important provisions in bold that, in my opinion, are not taught by Serial No. 08/435,798) :

"1. In a rotary offset printing press having first and second side frame members and a plurality of printing units each having a plate cylinder, a blanket cylinder, and an impression cylinder supported for rotation in operable combination, the

printing units having a delivery side and a dampener side opposite the delivery side, an interunit operator space between printing units and a dampener or a space for a dampener on the dampener side of each unit, the improvement comprising:

"a printing apparatus for inking or coating, the printing apparatus having a frame movably coupled to at least one printing unit **in the space for a dampener**, the printing apparatus being movable between an on-impression operative position and an off-impression retracted position;

"the movable frame supporting a removable first applicator roller and a

"removable second applicator roller, the first applicator roller, being supported for adjustment into and out of ink or coating association with the plate cylinder and the second applicator roll being cylinder, when the printing apparatus is moved respectively to the on-impression operative position and the off-impression retracted position;

"whereby a continuous or spot film of ink or coating can be applied simultaneously by the printing apparatus to a plate cylinder and the blanket cylinder and ink or coating can be selectively applied to the plate cylinder or blanket cylinder or a plate mounted thereon if one of the first or second applicator rollers is removed from the frame."

(Emphasis supplied)

I understand that this is a so-called Jepsen claim, wherein the '713 applicants admitted that everything in the six-line preamble, up to "comprising" was in the prior art.

"12. A rotary offset printing press having a printing unit of the type having a delivery side and a dampener side, said dampener side having a dampener space for receiving a dampener, comprising, in combination:

"a plate cylinder mounted on the printing unit between the delivery side and the dampener side, and a printing plate mounted on the plate cylinder;

"a blanket cylinder having an ink or coating receptive blanket disposed in ink or coating transfer engagement with the plate for transferring ink or coating material from the image surface areas of the printing plate to the ink or coating receptive blanket;

"an impression cylinder disposed adjacent the blanket cylinder thereby forming a nip between the blanket and impression cylinder whereby the printing ink or coating material is transferred from the blanket to

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a substrate as the substrate is transferred through the nip;

"support means mounted on the dampener side of the printing unit;

"an inking or coating apparatus having a removable first applicator roller and a removable second applicator roller, **being positioned in the dampener space in place of a dampener**, the inking or coating apparatus being coupled to the support means for movement between an on-impression operative position and an off-impression retracted position wherein the first applicator roller is adjustably plate cylinder while the second applicator roller is adjustably supported for simultaneous movement into and out of ink or coating association with the plate on the plate cylinder while the second applicator roller is adjustably supported for simultaneous movement into and out of ink or coating association with the blanket on the blanket cylinder; and

"whereby a continuous or spot film of ink or coating can be applied by the inking and coating apparatus to a plate on the plate cylinder and a blanket on the blanket cylinder and ink or coating can be selectively applied to the plate on the plate cylinder or the blanket cylinder or a plate thereon."

Again I have placed in bold those limitations/elements that are important/material to claims 1 and 12 and not supported fairly by Serial No. 08/435,798. I note all other claims of the '713 patent are dependent on claims 1 and 12. The bolded limitations/elements of claims 1 and 12 not taught in Serial No. 08/435,798 have the following significance which is critical, in my opinion:

(a) In '713 Claim 1, the emphasized term "*simultaneously*" is supported in the '713 patent in Figure 4, 66 & 67; Figure 5, 66 & 67; Figure 6, 66 & 67; Figure 10, 67C and 66 C; Figure 11, 66C; Figure 12, 130; Figure 14, 67 & 66; Figure 16, 59; Figure 18, 66C; Abstract line 17; col. 1, line 28; col. 3, line 31; col. 10, line 37; col. 11, line 59. Claim 1 requires that coatings/inks are applied *simultaneously* -- importantly and significantly in my opinion, the word "*simultaneously*" is not used in application '798 and is not fairly taught. "*Simultaneous*" printing/coating is and has been rarely used in the industry since most work *traps*. The word "trap" has several meaning in the graphic arts. The most common meaning is the amount of spread/enlargement that is made to type or lines to accommodate the imperfections in stretch of the substrate/paper. In this sense the "trapping" function is

employed on most type of printing today. *Simultaneous* printing is used in the production of some types of can printing, namely beer and shaving lotion. This particular application has little use in the industry and does not require the use of spread/enlargement of type or lines. The use of the word *simultaneous* is also used in '713 to mean a split fountain, i.e. using one ink fountain to apply two or more colors of ink. This split fountain arrangement is prior art.

(b) In '713 Claim 1, col. 21, line 12 claim 1 requires that "one of the first or second applicator rollers is *removed* from the frame." (emphasis supplied) Note the '713 patent at col. 7, lines 11-46. Col. 11, lines 52-58 of the '713 supports the claimed applicator roller removal alternative. In application '798, no rollers are taught to be removed from the cantilevered mechanism relative to a primary teaching of simultaneous engagement, notwithstanding any inferences in Fig.4 and col. 13, lines 9-14 to the contrary.

(c) In '713, Claim 12, col. 22, line 41, requires "support means mounted on the dampener side of the printing unit." This is also true of claim 1. (See first bolded language.) In mounting the flexo/coating unit on the dampener side of the press, the press is no longer a lithographic press, but is a specialty dedicated unit. This language is supported in the '713 patent by col.3, line 52; col. 4, lines 5-7; col.13, lines 8-11, Figure 3, 10; Figure 4, 10; Figure 5, 10; Figure 6, 10; Figure 14, entire unit in other figures labeled 10; and Figure 17, 10. In the '798 application, exactly the opposite is taught; namely, the unit is mounted on the *delivery* side of the unit. The '798, in fact, mandates contact on the delivery side -- see page 7 at lines 18-21 -- "when fully retracted, the coater and carriage assembly are lifted to an overhead position overlying the printing unit tower, thus providing complete access to the printing unit cylinders, without causing the printing unit to lose its printing capability." In '798, the unit is supposedly easily retractable so that the press unit can print by the lithographic process.

(d) Claim 12 requires at, col. 22, line 45 rollers "being positioned in the dampener space in place of a dampener." This is supported in the '713 patent by Figures 3-6; col. 3, line 52; col. 4, line 5-7; col. 13, lines 8-11; and col. 16, lines 49-58. The '798 application teaches the opposite and stresses that mounting on the *delivery* side is a major advantage--see page 20 of the '798 application as filed, lines 19-23. The '798 incorporates an easy to use feature, namely a drop-down coater/flexo unit which would only take a few

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minutes to install. The removal of the dampener system is a major project for a skilled equipment installer and would not be done by an employee of a typical printing firm. My expert opinion would be that it would take two days of work to install and debug the system. I deal with printers on a day-to-day basis. Such installation and adjustment would be unacceptable to the majority of the printers around the world because of the expense required to change-out the equipment and the downtime involved. As a practical matter, any such change to the plate and blanket cylinders would *be permanent* with the loss of capacity following – unacceptable to most printers paying millions of dollars for the modern presses. Factory installers and technicians would be required to make the modifications, especially on removal of the "double bump" system to return the press to normal lithographic operation.

Thus, in my opinion there are two fundamental differences between the '713 patent and the 08/435,798 or EP 0 741 025 (A3) application in that (a) the flexographic coating device in the '713 patent is virtually, if not literally (as mentioned above), *semi-permanently* mounted to the press, *preventing the use of that printing unit for lithographic printing* and (b) 08/435,798 does not teach simultaneous engagement of the plate and blanket cylinders. These are very serious differences. Hence, I do not think the '713 applicants can fairly receive the benefit of the filing date of Serial No. 08/435/798, filed, May 4, 1995.

12. The following additional limitations of dependent Claims 2-11 and 13-26 are in the prior art or are also not mentioned or taught in Ser. No. 08/435,798:

(a) Claim 2 has an additional limitation to Claim 1, but the additional limitation is in the prior art:

"a doctor blade assembly having a reservoir for receiving ink or coating material coupled to the first or second applicator roll."

Claim 2 discusses a doctor blade inking/coating device. This is technology that was used in the gravure printing process for over 50 years, in flexography printing for approximately 15 years, and in coating on offset lithographic presses for about 10 years. It has support in the '713 at col. 11, lines 52-55; col. 12, lines 5-8 and 13-15; and items 67 of Figures 8-9 and col. 18, lines 32 -35. Serial No. 08/435,798 clearly discloses the additional limitations of Claim 2, but as stated, the additional limitation is in the prior art.

(b) Claim 3, also is deficient in the same regard:

"the applicator roller comprising:

a roller having a *resilient* transfer surface." (Emphasis supplied)

Claim 3 requires, in addition to the requirements of Claim 2, that a resilient transfer surface is used on the coating/printing roller. I note that the term "resilient anilox coating roller" is found in Ser. No. 08/435,798 at page 19, lines 4-11, and item 66 of Figs. 4-6. As indicated below for Claim 22, there is, however, inadequate enabling support for "resilient transfer surface" in Ser. No. 08/435,798, which is apparently why material was inserted in August 1998 leading to the '713 patent. This feature once again is in the prior art and was in wide use in the industry as of August 1995. In fact, the technology has been employed for many hundred years.

(c) Claim 4 of '713 requires, in addition to the requirements of Claim 1:

"first and second pivot pins mounted on the first and second side frame members, respectively, said pivot pins extending in alignment with the rotational axis of the plate and blanket cylinder;

"the printing apparatus being pivotally coupled for rotational movement on the pivot pins."

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This language is supported in the specification in Figs. 2, 3 and 9, openings 88, 90 and pivot pins 88P, 90P and axis "X", and col. 2, lines 58-62, col. 3, lines 58-62 and 66 to col. 4, line 5; col. 8, lines 28-30; col. 12, line 79 to col. 13, line 11 and col. 13, lines 26-37; col. 14, lines 13-19. This use of first and second pivot pins for simultaneous engagement (hence, the "double bump" of the 713) to the plate and blanket cylinders (claim 1, last paragraph) *is not shown or taught in Ser. No. 08/435,798 or EP 741,025 (A2)*, which employs a *cantilevered device* (see Fig. 3, 4) to engage blanket cylinder 34. The same word "pivot" is used in the two different specifications for two different purposes: in the '798 "pivot pin" is used to engage the single coating roller to either the plate or the blanket; in the '713 patent, the bell crank is used to make contact with both the plate and blanket cylinders; and, in the '713 patent, to effect contact with only one cylinder, it is necessary that a roller be removed. In short, the "first and second pivot pins" of the '713 bear no relationship to the pivoting mechanism of the cantilevered device of Ser. No. 08/435,798 or EP 741,025 (A2).

(d) Claim 5 of '713 requires, in addition to the requirements of Claim 1:

"a power actuator pivotally coupled to the printing unit, the power actuator having a power transfer arm which is extendable and retractable; and,

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"apparatus coupled to the power transfer arm and to the printing apparatus for converting extension or retraction movement of the power transfer arm into pivotal movement of the printing apparatus relative to the plate and blanket cylinder."

This dependent claim requires a way for power to be supplied to the unit. It is basic technology, and not material. The language is supported by Figs. 4-6, 8, 14 and 17 and items 104, 104A, 106, 106A and col. 13, line 66 to col. 14, line 21. In Ser. No. 08/435,798 and EP 741,025 (A2), there is disclosure in Figs. 4, and page 15, lines 18-26, page 16, lines 9-12, actuators 104, 106 and transfer arms 104A, 106A, but these are for engaging a different type of device - a *cantilevered* device; and therefore, for a different purpose - not for simultaneous engagement ('713 Claim 1) of the plate and blanket cylinders. The additional limitations of Claim 5 can be said to be fairly supported by Ser. No. 08/435,798, but are old in the art.

(e) Claim 6 of '713 requires, in addition to the requirements of Claim 5:

"a bell crank plate having a first end portion pivotally coupled in the printing apparatus for engaging the printing unit and having a second end portion for engaging a stop member; and,

"a stop member coupled to the inking or coating apparatus for engaging the second end portion of the bell crank plate."

I call this and Claim 21 the "bell crank" claims. These additional limitations are supported in the '713 patent by Figs. 4, 5, 8, 14 and 17 (note item 118 and col. 14, lines 26-38.). Ser. No. 08/435,798 and EP 741,025 (A2) disclose bell crank 111 (Note page 15, lines 30-35 and page 16, lines 9-12 and Figs. 3-6, item 111). Serial No. 08/435,798 discloses a bell crank apparatus which is substantially the same as the '713 apparatus, but is very old in the prior art (such apparatus was used in the Rubel press in about 1908, the first offset lithographic press ever made, which is now in the Smithsonian Institute in Washington, D.C.).

(f) Claim 7 of '713 requires, in addition to the requirements of Claim 1:

"the movable frame having first and second side support members;

"the ink or coating applicator rollers being mounted between the first side support member and second side support members and having a reservoir or fountain pan for receiving ink or coating materials;

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"cradle means mounted on the first and second side support members, respectively for removably supporting the first and second applicator rollers in the movable frames;

"power transfer means coupled to the applicator rollers for rotation thereof,"

These "dual cradle" limitations are taught in the '713 patent in Figs. 8-10 and 14-17 (Note cradle assemblies 100, 102) and col. 3, lines 65 to col. 4, line 4, col. 11, lines 34-36 and 46-50 col. 13, lines 38-42, col. 17, lines 62-66, and col. 18, lines 34-45 and 49-56. Figure 4 of Ser. No. 08/435,798 shows a potential for a dual cradle, but two rollers are never taught to be mounted at the same time. Fig. 5 does not show a dual cradle. The text supporting the pertinent parts for Fig. 3 of '798 exists at page 8, line 16, and for Fig. 4 at page 13, lines 7-17, but does not teach dual cradle of the '713 patent with two mounted rollers.

(g) Claim 8 additionally requires, in addition to the requirements of Claim 7, the mounting of two applicator rollers not taught in '798:

"the cradle means including a first cradle assembly disposed on the first and second side support members, respectively, and a second cradle assembly disposed on the first and second side support members, respectively,"

In '798 only one applicator roller is used; two application rollers are not employed simultaneously.

(h) Claim 9 additionally requires, in addition to the requirements of Claim 1, a container for holding the ink/coating:

"wherein a container means for containing liquid ink or coating material and means for applying ink or coating material from the container means to a peripheral surface portion of the first and second applicator rolls is provided and supported by the printing apparatus."

This additional limitation, however, is in the prior art and the technology has been used for 20 years or more in the industry. It is supported in the '713 in Figs. 7 and 12 (item 70) and in the specification at col. 8, lines 38 and 54 and 58; col. 9, line 40. Support for counterpart item 70 I believe is found, fairly, in Ser. No. 08/435,798, e.g. at page 11, line 27.

(i) Claim 10 additionally requires, in addition to the requirements of Claim 9, in detail the use of a doctor blade:

"wherein the container means comprises a doctor blade assembly having a reservoir or fountain pan for supplying ink or coating material to each of said applicator rollers, and having a doctor blade disposed for wiping engagement with

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each of said applicator rollers when it is received in rolling contact with ink or coating material in the reservoir or pan."

This limitation is taught in the '798 application, but is prior art. A doctor blade has been used in the industry for more than 50 years, as part of the gravure printing process.

(j) Claim 11 additionally requires, in addition to the requirements of

Claim 9, a fountain pan which is prior art:

"wherein the container means comprises a fountain pan and the inking applying means comprises a pan for transferring ink or coating material from the fountain pan to said first and second applicator rollers;"

This claim is similar to dependent claim 24. Support for this language is found in the '713 patent in Figs. 4-8 (especially 8), 10-13 and 16-17, and items 53, 53A, 53B, 53P, 55, 66A, 66B, 67A, and 67B and col. 9, lines 63-67 and col. 10, lines 8-28. The drawings of the '798 application support this additional limitation (fountain pans), but there is still no support for the emphasized limitations in Claim 1. The concept has been used in the industry for perhaps 50 or more years.

(k) Claim 13 dependent on Claim 12, has the additional limitation of a coating or flexographic ink utilizing hot air and an exhaust system:

"wherein the plate cylinder, blanket cylinder, impression cylinder and inking or coating apparatus forms a first printing unit, the printing press having a second printing unit for printing or coating the substrate subsequently to the first printing unit, the printing press further including:

"a dryer mounted on the printing press for discharging heated air onto a fresh printed or coated substrate from the first printing unit before the freshly printed or coated substrate is subsequently printed, coated or otherwise processed in the second printing unit."

This hot air dryer limitation is in the prior art and has been used for many years – at least 50. While there is missing support for the cited unsupported limitations for Claim 12, this additional limitation I believe is found in Ser. No. 08/435,798.

(l) Claim 14 likewise dependent on Claim 12 via dependency on Claim 13, additionally requires the use of a dryer mounted adjacent to the impression cylinder to place on the sheet hot air while the sheet is in contact with the impression cylinder:

"the dryer is mounted adjacent to the impression cylinder for discharging heated air onto a freshly printed or

coated substrate while the substrate is in contact with the impression cylinder;"

This is supported in '713 by Fig. 3, 124; Fig. 4, 124, also the same in Fig. 5, and col. 4, line 14-17; col. 14, 59-56; col. 15, lines 4-57; col. 16, line 56; col. 17, line 18. In '798 the use of a hot air interstation dryer with a moisture extractor is mentioned in the abstract line 14, page 18, lines 1-4 and 26; page 19, line 24. The use of hot air dryers and moisture extractors has been used to the best of my recollection in coating technology of waterbased coatings since 1970. Interstation hot air dryers and extractors were first envisioned as a method of increasing wet trapping values of lithographic ink as well as to dry the fountain solution from the surface of poly-coated folding carton board (very popular for the packaging of ice cream). Williamson Printing installed, in the 1991-1992 era, an interstation hot air dryer and extractor, made by a British company, on a press in an effort to improve the trapping of metallic ink, during the early development of the WIMS project.

(m) Claim 15 dependent on Claim 13, additionally requires the use of an extractor to remove moisture, etc. from the ink or coating:

"an extractor coupled to the dryer for extracting hot air, moisture, odors and volatiles from an exposure zone between the dryer and the freshly printed or coated substrate."

The same references apply to claim 15 as in claim 14. Essentially, a hot air dryer or many times called an air knife is not practical without the use of an extractor. Without an extractor, the pressroom would fill with an odor and moisture depending on the type of ink or coating being used. The concept of the extractor is found in the Ser. No. 08/435,798.

(n) Claim 16, dependent on Claim 12, additionally defines the position of the dryer "after it [the substrate] has been transferred from the impression cylinder and while it is in contact with the transfer cylinder":

"a transfer cylinder disposed in the interunit position on the press and coupled in sheet transfer relation with the impression cylinder; and

"an interunit dryer disposed adjacent the transfer cylinder for discharging heated air onto a freshly printed or coated substrate after it has been transferred from the impression cylinder and while it is in contact with the transfer cylinder."

This is shown in '713 Fig. 3, 4, 5, item 126. It should be pointed out that '798 does teach the use of *an interunit dryer "adjacent [to] the transfer cylinder"*, in item 114.

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- (o) Claim 17, also dependent on Claim 12, has the following additional limitations:

"wherein the plate cylinder, blanket cylinder, impression cylinder, support means and inking or coating apparatus form a first printing unit, the printing press having a second printing unit including a plate cylinder, a blanket cylinder and an impression cylinder in operable combination, further including:

"a transfer drum coupled in substrate transfer relation with the impression cylinder of the first printing unit and in substrate transfer relation with the impression cylinder of the second printing unit;

"a first dryer mounted adjacent the impression cylinder of the first printing unit for discharging heated air onto a freshly printed or coated substrate while the substrate is in contact with the impression cylinder of the first printing unit;

"a second dryer mounted adjacent the transfer drum for discharging heated air onto a freshly printed or coated substrate after it has been transferred from the impression cylinder of the first printing unit and while it is in contact with the transfer cylinder; and,

"third dryer disposed adjacent the impression cylinder of the second printing unit for discharging heated air onto a freshly printed or coated substrate after it has been transferred from the transfer drum and while it is in contact with the impression cylinder of the second printing unit."

The description appears in the '713 patent in items 124, 126, and 128 of Fig. 4 and Fig. 5, Col 14, line 60-65; Col. 15, line 5, 16-48; Col. 17, line 19. It should be noted that '798 teaches the use of *two*, not *three*, drying units. Second, Ser. No. 08/435,798 does not teach the location of dryers at any other place than after the sheet was has been printed and at the impression cylinder.

- (p) Claim 18, likewise dependent on Claim 12, describes the use of a cradle for the support of the first applicator roller and the cradle for the second applicator roller, and has the following additional limitations:

"wherein the inking or coating apparatus includes:

"first cradle means for supporting the first applicator roller for engagement with the plate when the inking or coating apparatus is in the operative position; and,

"second cradle means for supporting the second applicator roller for engagement with the blanket when the inking or coating apparatus is in the operative position."

The description appears in 10 of Fig. 3, Fig. 4, Fig. 5, Fig. 6, Fig. 8, Fig. 10, Fig. 14, and Fig. 17. It is also discussed many times throughout the '713 patent. This cradle arrangement is not taught in '798 which teaches only a retractable, cantilevered device using one applicator roller at a time, rather than two application rollers in the operative position simultaneously. The cradle arrangement is similar to the "T" head for offset duplicators. The "T" head on an offset duplicator is a moveable second printing unit capable of being engaged to apply an additional ink to an offset blanket. The "T" head is a cradle device that is sold as an after market add-on device.

(q) In addition to the requirements of Claim 12, Claim 19 requires that the support means comprise:

"first and second pivot means mounted on the first and second side frame members, respectively."

Pivots are very old technology -- much older than a hundred years. This claim is not dissimilar, in my opinion as an expert in the printing arts, to the first paragraph of Claim 14. This language, although the phrase "pivot means" appears nowhere in the '713 patent, is supported in the specification in Figs. 2, 3, and 9, openings 88, 90 and pivot pins 88P, 90P and axis "X", and col. 2, lines 58-62, col. 3, lines 58-62 and 66 to col. 4, lines 5; col. 8, lines 28-30; col. 12, line 79 to col. 13, line 11 and col. 13, lines 26-37; col. 14, lines 13-19. Both disclosures do teach the use of pivots. The '713 use of first and second pivot pins for simultaneous engagement (hence, the "double bump" of the '713) to the plate and blanket cylinders (Claim 1, last paragraph) is not shown or taught in Ser. No. 08/435,798 or EP 741,025 (A2), which employs a cantilevered device (See Fig. 3, 4) to engage the blanket cylinder 34. In short, the "first and second pivot means" of the '713 bear no relationship to the pivoting mechanism of the cantilevered device of Ser. No. 08/435,798 or EP 741,025 (A2).

(r) Claim 20 requires, in addition to the requirements of Claim 12:

"a power actuator pivotally coupled to the inking or coating apparatus, the power actuator having a power transfer arm which is selectively extendable or retractable; and,

"apparatus coupled to the power transfer arm and to the

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inking or coating apparatus for converting extension or retraction movement of the power transfer arm into pivotal movement of the inking or coating apparatus relative to the printing unit."

This claim is not dissimilar to Claim 5, but substitutes the language "relative to the printing unit" for "to the plate and blanket cylinder" of Claim 5. This dependent claim, like Claim 5, requires a way for power to be supplied to the unit. It is basic technology, and not material. The language is supported by Figs. 4-6, 8, 14 and 17 and items 104, 104A, 106, 106A and col. 13, line 66 to col. 14, line 21. In Ser. No. 08/435,798 and EP 741,025 (A2), there is disclosure in Figs. 4, and p. 15, lines 18-26, and p. 16, lines 9-12, actuators 104, 106 and transfer arms 104A, 106A, but these are for engaging a different type of device - a *cantilevered* device, and therefore, for a different purpose - not for "*simultaneous*" engagement ('713 Claim 1) of the plate and blanket cylinders. The additional limitations of Claim 20 are fairly supported by Ser. No. 08/435,798, but are old in the art.

(s) Claim 21 requires, in addition to the requirements of Claim 12:

"a bell crank plate having a first end portion coupled to the inking or coating apparatus and having a second end portion for engaging a stop member; and,

"a stop member secured to the inking or coating apparatus for engaging the second end portion of the bell crank plate."

This dependent bell crank claim is parallel to Claim 6. This additional limitation(s) are supported in the '713 by Figs. 4, 5, 8, 14 and 17 (Note item 118 and col. 14, lines 26-38). Ser. No. 08/435,798 and EP 741,025 (A2) disclose bell crank 111 (Note p. 15, lines 30-35 and p. 16, lines 9-12 and Figs. 3-6, item 111). Serial No. 08/435,798 discloses a bell crank apparatus which is substantially the same as the '713 apparatus, but is very old in the prior art.

(t) Claim 22 requires, in addition to the requirements of Claim 1 or 12, the following:

"the first applicator roller having a resilient transfer surface."

The supposedly enabling support for this exists in the '713 patent at col. 16, lines 17-41, which material was added in August 1998 in a continuation-in-part Ser. No. 09/136,901 and for which even the corresponding language *does not* appear in U.S. Pats. 5,651,316 and 5,598,777 (see paragraph 7 above) having otherwise the same substantive text. The

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corresponding support also does not exist in Ser. No. 08/435,798, and hence I believe the additional requirement of Claim 22 is not sufficiently fairly disclosed or taught in Ser. No. 08/435,798, although mention is made of a "resilient anilox coating roller" at p. 7, line 12 and p. 19, lines 7-11.

(u) Claim 23 requires, in addition to the requirements of Claims 1 or 12, the following:

"a supply container for containing a volume of liquid ink or coating material;

"circulation means coupled between the supply container and the inking or coating apparatus for inducing the flow of liquid ink or coating material from said supply container to the inking or coating apparatus and for returning liquid ink or coating material from the inking or coating apparatus to the supply container; and,

"heat exchanger means coupled to the circulation means for maintaining the temperature of the liquid ink or coating material within a predetermined temperature range."

Support for this is found in Figs. 6, 7, 12, 13 and 14 and items 70, 70A, 70B, 71, 73, 75, and 77 and col. 7, lines 19-21; col. 8, lines 37 and 54-63; col. 10, lines 34-46; col. 18, lines 34-39. Such circulation systems of the second element have been known since before 1995; supply containers and heat exchangers have been known for many years. The recirculation system discussed has been in common use in this art, in my opinion, at least since about 1975. Heat devices to reduce viscosity of coatings, e.g., drum heaters, were starting to be used in the early 1990s with lithographic presses. The only counterpart in Ser. No. 08/435,798 is in col. 11, line 27 ("reservoir 70", note Figs. 4 and 6 (EP 741,025 (A2)) only) and the mention of a "non-illustrated pump" (col. 11, lines 27-29). The use of a heat exchanger was not mentioned in Ser. No. 08/435/798. The 08/435,798 specification is insufficient to constitute support for the requirement of the additional limitations in Claim 23.

(v) Claim 24, requires, in addition to the limitations in Claims 1 or 12, the following:

"a fountain pan for containing a volume of liquid ink or coating material;

"an applicator roller having a metering surface; and,

"a pan roller mounted for rotation in the fountain pan
and coupled to the applicator roller for transferring ink or
coating material from the fountain pan to the applicator roller."

Support for this language is found in the '713 patent in Figs. 4-8 (especially 8), 10-13 and 16-17, and items 53, 53A, 53B, 53P, 55, 66A, 66B, 67A, and 67B and col. 9, lines 63-67 and col. 10, lines 8-28. I believe support for the additional limitations is supported by the drawings of the '798, but of course, the necessary support for Claim 1 and 12 is missing.

(w) Claim 25 requires, in addition to the limitation found in Claim 1 or 12:

"a resilient packing is mounted on the blanket cylinder,
and a printing plate is mounted on the resilient packing."

Support for this additional limitation(s) is found in '713 in Fig. 5 (phantom lines in printing unit 22) and col. 8, lines 8-28. I can find no express counterpart support to col. 8, lines 8-28 in Ser. No. 08/435,798. What is described technically in Claim 25 is the configuration for a basic lithographic press. A blanket cylinder has a resilient packing paper under the blanket (which is also a resilient surface), and packing paper is under the plate. This is old technology, and was first used in about 1908 by Ira Rubel, whose press is on display in the American Building at the Smithsonian in Washington, D.C.

(x) Claim 26, likewise depends on Claim 1 or 12, requires additionally the following:

"means for applying ink or coating material to the first and second applicator rollers, and the inking or coating apparatus is pivotally mounted on the printing unit in a position in which the nip contact point between the applicator rollers and the blanket and plate cylinders is offset with respect to a radius line projecting through the center of the plate cylinder and blanket cylinder to the axis of pivotal motion of the inking or coating apparatus."

Support for this so-called "triple bump" (see specification, last two columns prior to the claims, '713) is found in the '713 patent at col. 19, lines 28 through col. 20, line 43, and items 97, 97A and 42-43 in Figs. 3 and 4 of the '713. This additional bump refers to end-of-press coater technology in a number of PRI patents. No counterpart disclosure exists in Ser. No. 08/435,798, and, accordingly, '713 Claim 26 is not supported by Ser. No. 08/435,798.

In short, none of the '713 claims are fairly supported or described by Ser. No. 08/435,798 because of the above emphasized limitations in claims 1 and 12 which are

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missing from the teaching of Ser. No. 08/435,798. Moreover, as indicated above, the additional limitations of dependent claims 3, 4, 7, 8, 17, 18, 19, 22, 23, 25 and 26 are also not found in Ser. No. 08/435,798.

13. The '713 patent is directed to a teaching for only a very high specialized printer, and could be used only if the need existed in a narrow market. Any economic advantages are questionable, since it is unlikely that a printer would purchase an expensive press and then convert one or more units "semi-permanently" to a flexographic press, which is usually a press of lesser cost to the printer -- the teachings in the '713 patent are primarily directed toward the manufacture of a *semi-permanent* restructuring of an offset lithographic press with dedicated stations for flexographic printing replacing the corresponding changed-out lithographic stations. *Both the blanket cylinder and the plate cylinder are engagable in each of these restructured units.* The teaching of the '798 application is diametrically opposite -- a very specialized teaching of a certain form of retractable unit (cantilevered) adapted to save the lithographic option for each unit mounted, and with engagement to either the plate cylinder or blanket cylinder, but not both. *It is true that in the industry certain parts of both the '713 and '798 teachings are in common - e.g., certain traditional lithographic and flexographic parts, and anilox rollers, doctor blades, reservoirs for inks, pivot pins, power actuators, bell cranks, dryers, etc. But that is where the similarity ends. The '713 and '798 machines do not act in the same manner, and are different structurally in many ways and even with respect to the commonly identified parts, the parts are made differently.*

14. In looking over the teaching of this patent, in my professional opinion, the teaching is confusing in several respects:

(a) The "double bump" is novel and of questionable commercial value due to the fact that when ink is applied to the plate cylinder and ink or coating is applied to the blanket cylinder and they overprint - at that time the two may mix or may not trap when the combined image is transferred to the substrate. Technology of a similar type has been used in printing presses for some types of containers - years ago beer cans, and today for the printing of shaving cream cans and juice cans (large size). The '713 disclosed press is a press that has

two inking systems, possibly two plate cylinders, and one blanket cylinder (many times this has been called a "Y" press.) The problem of placing two non-identical inks or coatings on the same blanket is that they may mix and may not trap. The teaching of the '713 patent at col. 2, lines 58-63, col. 3, lines 12-18 and col. 10, lines 37-54 is confusing. Such mixing is of dissimilar inks and coatings is potentially disastrous in a production pressroom, if in fact totally unworkable. Inks not trapping is not acceptable -- therefore the cans printed today - if printed on a "Y" press (as well as designed) do not have areas that require trapping. Thus, the '713 patent has very little to no application to the general graphic arts community.

(b) The '713 patent describes at col. 13, lines 58-65, placing the unit on the *delivery* side of the press, but states that the preferred position is on the *dampener* side. It is interesting to note that if the unit described in '713 were to be installed on the *delivery* side, it would be inoperable because one could not put a plate or a blanket on the press. I feel that whoever wrote the patent did not build or think through this option. This is exactly opposite of the teaching of 99% of the '713 patent (*dampener* side) - a contradiction. The '798 claims the unit is only placed on the *delivery* side of the press with a cantilevered device so that the unit may be withdrawn from the unit easily and quickly. *These two documents ('713 and '798) teach exactly the opposite.*

(c) The '713 teaching at col. 16, lines 17-41 is questionable. If one were to manufacture a resilient anilox roller and apply the coating as stated through the sealed doctor blade assembly, it will run for less than a few minutes. This statement in Col. 16, lines 7-41, added in late 1998 to the specification, cannot fairly be made. A doctor blade scrapes coating or ink from the surface of an anilox roller and *is as sharp as a razor blade*. The doctor blades on a sealed doctor blade assembly as recommended by the '713 patent will cut a resilient anilox roller when set with even the lightest pressure.

15. In my original declaration executed on or about May 19, 1999, I provided a curriculum vitae. Presently, I am employed with the Graphic Arts Technical Foundation ("GATF") as Senior Technical Consultant. As part of my duties, I perform independent consulting work for many printers. I have been such a consultant since 1966. Presently,

Jerry Williamson, Chairman of the Board of Williamson Printing Corporation, is an elected member, without pay, of the Board of Directors of GATF, but is not my direct supervisor or even my supervisor's supervisor. I retain my independent status as a consultant, and my actions as a consultant have never been subject to salary reviews or rebuked by a member of the Board of Directors or an officer of GATF in thirty-four (34) years.

The undersigned Declarant stated further that all statements made herein of Declarant's own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.


Raymond J. Prince
Date: 4/9/04

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